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P.O. Box 1450 Alexandria, Virginia 22313-1450

NOTICE OF ALLOWANCE AND FEE(S) DUE

30827 7590 07/21/2011 MCKENNA LONG & ALDRIDGE LLP 1900 K STREET, NW WASHINGTON DC 20006 EXAMINER

ZERVIGON, RUDY

ART UNIT PAPER NUMBER

DATE MAILED: 07/21/2011

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/039,438	03/16/1998	WOO-SUP SHIN	8733.120.01	9576

TITLE OF INVENTION: ETCHING APPARATUS

APPLN, TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1510	SO	\$0	\$1510	10/21/2011

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: Mail Mail Stop ISSUE FEE Commissioner for Patents P.O. Box 1450

Alexandria, Virginia 22313-1450 or Fax (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address and indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or by indicating a separate "FEE ADDRESS" for maintenance fee notification

07/21/2011 MCKENNA LONG & ALDRIDGE LLP 1900 K STREET, NW

WASHINGTON DC 20006

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission

I hereby certify that this Feeds () Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (5/1) 273-2885, on the date indicated below.

(Depositor's name)	
(Signature)	
(Date)	

APPLICATION NO. FILING DATE FIRST NAMED INVENTOR ATTORNEY DOCKET NO. CONFIRMATION NO 09/039 438 03/16/1998 WOO-SUP SHIN 8733 120 01 9576 TITLE OF INVENTION: ETCHING APPARATUS

APPLN, TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1510	S0	\$0	\$1510	10/21/2011
EXAM	IINER	ART UNIT	CLASS-SUBCLASS			
ZERVIGO	N, RUDY	1716	156-345130			
I. Change of orrespondence address or indication of "Fee Address" (37 CFR 1.853) — Change of correspondence address (or Change of Correspondence Address form PTOSB/122) attached. — Tee Address 'indication (or 'Tee Address' Indication form PTOSB/47; Rev 03-02 or more recent) attached. Use of a Customer Number is required.			2. For printing on the patent front page, list (1) the names of up to 3 registered patent attorneys or agents OR, alternatively. (2) the name of a single firm thaving as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.		era 2	

PTO/SB/4/; Rev 03-02 or more recent) attached. Use of a Customer Number is required.	2 registered patent attorneys or agents. If no name is 3		
3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON	THE PATENT (print or type)		
PLEASE NOTE: Unless an assignee is identified below, no assignee recordation as set forth in 37 CFR 3.11. Completion of this form is NO	data will appear on the patent. If an assignee is identified below, the document has been filed for T a substitute for filing an assignment.		
(A) NAME OF ASSIGNEE	(B) RESIDENCE: (CITY and STATE OR COUNTRY)		
Please check the appropriate assignee category or categories (will not be pr	rinted on the patent):		
	b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)		
☐ Issue Fee	A check is enclosed.		
☐ Publication Fee (No small entity discount permitted)	☐ Payment by credit card. Form PTO-2038 is attached.		
Advance Order - # of Copies	The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number (enclose an extra copy of this form).		
5. Change in Entity Status (from status indicated above)			
a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27.	☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).		
NOTE: The Issue Fee and Publication Fee (if required) will not be accepte interest as shown by the records of the United States Patent and Trademark	d from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in Office.		

Authorized Signature Date Typed or printed name Registration No. This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and

submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time your require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer. U.S. Patert and Trademark Officer. U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 2231-450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 2231-450. Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE United States Patent and Trademark Office Address COMMISSIONER FOR PATENTS P.O. Box 1450 Alexandria, Virginia 22313-1450

APPLICATION NO. FILING DATE FIRST NAMED INVENTOR ATTORNEY DOCKET NO. CONFIRMATION NO. 09/039.438 03/16/1998 WOO-SUP SHIN 8733.120.01 9576 07/21/2011 MCKENNA LONG & ALDRIDGE LLP ZERVIGON, RUDY 1900 K STREET, NW WASHINGTON DC 20006

ART UNIT

DATE MAILED: 07/21/2011

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)

(application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 334 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 334 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2): (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

- The information on this form will be treated confidentially to the extent allowed under the Freedom
 of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of
 records may be disclosed to the Department of Justice to determine whether disclosure of these
 records is required by the Freedom of Information Act.
- A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement necotiations.
- 3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
- 4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
- 5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
- A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
- 7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his-fher designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2004 and 2006. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals
- 8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
- A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Notice of Allowability

Application No.	Applicant(s)	
09/039,438	SHIN ET AL.	
Examiner	Art Unit	
DUDY ZEDVICON	1716	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address-All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included
herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. THIS
NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS. This application is subject to withdrawal from issue at the initiative
of the Office or upon petition by the applicant. See 37 CFR 1.313 and MEPE 1308.

- 1. This communication is responsive to the May 2, 2011 amendment.
- 2. The allowed claim(s) is/are 1,2,4-6 and 9.
- 3. Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some* c) None of the:
 - 1. X Certified copies of the priority documents have been received.
 - 2. Certified copies of the priority documents have been received in Application No.
 - Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
 - * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

- 4. A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
- 5. CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) 🔲 including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - The reto or 2) to Paper No./Mail Date ____.

 To Paper No./Mail Date ____.

 To Including changes required by the attached Examiner's Amendment / Comment or in the Office action of
 - Paper No./Mail Date _____.

 Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- 1. Notice of References Cited (PTO-892)
- Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3. Information Disclosure Statements (PTO/SB/08),
- Paper No./Mail Date 7/26/1999
- Examiner's Comment Regarding Requirement for Deposit of Biological Material
- 5. Notice of Informal Patent Application
- Interview Summary (PTO-413), Paper No./Mail Date ______.
- 7. Examiner's Amendment/Comment
- 8. X Examiner's Statement of Reasons for Allowance
- 9. 🔲 Other __

/Rudy Zervigon/

Primary Examiner, Art Unit 1716

Art Unit: 1716

DETAILED ACTION

Allowable Subject Matter

Claims 1, 2, 4-6, and 9 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

The March 29, 2010 BPAI decision affirmed all the Examiner's rejection for the claims as they

existed on that date. Applicant's May 2, 2011 amendment substantially consolidates the pending

claims since Applicant's May 28th 2010 37 CFR 1.114 request for continued examination. As a

result, the Examiner's rejections are no longer deemed obvious over the existing grounds of

rejection and art of record.

Conclusion

3. Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Examiner Rudy Zervigon whose telephone number is (571) 272-

 $1442. \ The \ examiner \ can \ normally \ be \ reached \ on \ a \ Monday \ through \ Thursday \ schedule \ from \ 8am$

through 6pm EST. The fax phone number for the organization where this application or

proceeding is assigned is 571-273-8300. Any Inquiry of a general nature or relating to the status

of this application or proceeding should be directed to the Chemical and Materials Engineering

art unit receptionist at (571) 272-1700. If the examiner can not be reached please contact the

examiner's supervisor, Parviz Hassanzadeh, at (571) 272- 1435.

/Rudy Zervigon/

Primary Examiner, Art Unit 1716